

Geocaulon lividum

Status

Federal status: G5 N5, Not listed

NH state status: S2, Threatened

ME state status: S2, Special Concern

Local population trends are unknown because most historic sites have not been revisited. There may be more populations than thought because it may occur in habitats beside the alpine bogs in which it is usually looked for. Also, it looks like *Vaccinium uliginosum* when it is not in fruit, so is probably under reported.

The expert panel indicated that the current outcome range-wide for this species is an A, and it will probably remain an A into the future. On the WMNF, it is currently “B.” In the future, it may decrease to a “C” with continued trail and recreational use because three of the four known sites are right along trails. Probably several unknown populations in Moriah are also along trails.

Distribution

Predominantly a Canadian species, ranging from Labrador and Newfoundland to Alaska, with southern intrusions into Maine, New Hampshire, New York, the Lakes States, Montana, Idaho, and Washington.

In New Hampshire, there are two extant and six historic occurrences from Bean’s Grant, Bean’s Purchase, Pittsburg, Shelburne, Success, and Waterville. All except the Pittsburg and Shelburne occurrences are on the WMNF. Both extant occurrences are on the WMNF at Bean’s Purchase and Success. Its distribution in the WMNF is very spotty and localized. It is more common in Maine, where it occurs in Piscataquis, Washington, Franklin, Aroostook, and Oxford Counties. In Oxford County, it is known from Riley TWP and Grafton TWP. None of these occurrences is in the WMNF.

Habitat

Geocaulon lividum is a boreal habitat species. It is found primarily in bogs and moist coniferous woods. It often occurs in nutrient poor areas, such as peatlands and krummholz, and on acid or sterile soils and damp sands. This species can occur either in the open or in the shade.

In New England, *Geocaulon lividum* is found from sea level to 4,100 feet (1,200 m) elevation. In the WMNF, the primary habitat is high elevation peatlands. It can occur at intermediate elevations in addition to the coastal and montane conditions with which it is usually associated, so surveys should not be limited by elevation.

In forests, this species can be one of the first species evident after a fire, increases in abundance slowly, and achieves its greatest cover in late-successional forest.

Limiting Factors

Trails through peaty bogs can remove habitat and alter hydrology. They are the key threat to the species. Several New England occurrences are along well-used trails.

The difficulty in accurately identifying this species and questions about the suitability of some habitats has probably limited identification of populations of this species, so it may not be as limited as previously believed.

Viability concern

The WMNF contains more than half of the known New Hampshire populations, and many of those have not been revisited to determine if they are extant. The species' viability is not currently thought to be at risk, but it has potential to decline on the WMNF and regionally with continued trail and recreational use.

Management activities that might affect populations or viability

Trails and associated recreational use are the only known threat to this species. Management and education that would help keep hikers on designated trails would benefit this species by limiting impacts to existing trail corridors. New trails should not be routed through suitable peaty habitats. If trail construction or reconstruction occurs in suitable habitats, efforts to maintain local hydrology would help mitigate potential impacts.

References

- Hodgdon, A. R. 1974. *Carex exilis*, *Geocaulon lividum* and Other Plants of Interest in Pittsburg, New Hampshire. *Rhodora* 76:307-309.
- ME DOC. 1999. Rare Plant Fact Sheet for *Geocaulon lividum* (Richards.) Fern. Maine Department of Conservation, Natural Areas Division, Augusta, Maine.
- MNAP. 2001. Summary of occurrences from the Biological Conservation Database. Maine Department of Conservation, Natural Areas Division, Augusta, Maine.
- NatureServe Explorer: An online encyclopedia of life [web application]. 2001. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: <http://www.natureserve.org/explorer>. (Accessed: January 4, 2002).
- NHNHI. 2001. Plant records for *Geocaulon lividum* on the WMNF. DRED, New Hampshire Natural Heritage Inventory, Concord, NH.
- NHNHI. 1991. Significant Ecological Features of the Appalachian Trail Corridor in New Hampshire. DRED, New Hampshire Natural Heritage Inventory, Concord, NH.
- Stern, R. 1979. *Geocaulon lividum* in the Mahoosuc Range, New Hampshire and Maine. *Rhodora* 81:141-143
- SVE Panel. 2002. GMNF/WMNF species viability evaluation expert panel notes on upland forest plants. Panel held June 3-4, 2002, Concord, NH
- USDA. 2002. Fire effects information website: <http://www.fs.fed.us/database/feis/plants/forb/geoliv/all.html> (Accessed Feb. 13, 2002)